APPENDIX K: PREPARING NIST TRACABLE SAMPLES

1. Take blood samples from at least 2 people, apply this material to blood stain cards (1 donor on each card) and dry the cards.

2. Demonstrate that the dried samples from each donor are homogenous by taking cuttings from each stain card prepared and process the samples in accordance with the DNA extraction and typing procedures outlined in the Commonwealth of Virginia Division of Forensic Science Forensic Biology Section Manual, Section III, Fluorescent Detection PCR-Based STR DNA Protocol PowerPlex® 16 BIO System. All normal controls must be processed with samples (e.g., reagent blanks, negative blanks, positive controls, etc.). The same DNA profile and relative allele intensities should be obtained from the duplicate samples from each card.

3. Once the representative testing has been completed as outlined above take a single cutting from each stain card (e.g., if enough blood was drawn to make 2 stain cards from each donor for a total of 4 stain cards then a single cutting from each card is needed) and extract these samples in parallel with samples from a Standard Reference Material (SRM) 2391B kit. If the correct DNA profiles are obtained from the in-house prepared samples and the SRM kit samples, then the in-house prepared samples are now considered National Institute of Standards and Technology (NIST) traceable.

4. To conduct the annual testing using the in-house prepared NIST traceable samples take a single cutting from each donor (e.g. if enough blood was drawn from an individual to make 2 stain cards a single sample from 1 of the cards is needed). Process the samples in accordance with the DNA extraction and typing procedures outlined in the Commonwealth of Virginia Division of Forensic Science Forensic Biology Section Manual, Section III, Fluorescent Detection PCR-Based STR DNA Protocol PowerPlex® 16 BIO System. Maintain all documentation in a properly labeled file.

5. The in-house prepared samples are good until the sample is consumed or a discrepancy is detected. New lots of NIST traceable samples have to be prepared as listed in step 1 above (meaning you cannot just bleed the same people and use their sample without going through the representative testing with all the applicable extraction and typing controls).

♦END